

Wearable glucose monitors shed light on progression of type 2 diabetes in Hispanic adults

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Sansum Diabetes Research Institute's Farming for Life initiative addresses Type 2 diabetes in underserved Hispanic/Latino communities by assessing the physical and mental health benefits of providing medical prescriptions for locally sourced fresh vegetables to people with or at risk of the disease. In a study of participants who wore continuous glucose monitors (CGMs), devices that measure blood sugar levels around-the-clock, researchers showed CGM data can provide new insights into the progression of Type 2 diabetes among at-risk Hispanic/Latino adults. Credit: Sansum Diabetes Research Institute

In one of the first studies of its kind, medical and engineering researchers have shown wearable devices that continuously monitor blood sugar provide new insights into the progression of type 2 diabetes among at-risk Hispanic/Latino adults.

The findings by researchers from Sansum Diabetes Research Institute (SDRI) and Rice University are available online this week in

EClinicalMedicine, an open-access clinical journal published by *The Lancet*.

"The fresh look at the glucose data sheds new light on disease progression, which could have a direct impact on better management," said Rice study co-author Ashutosh Sabharwal, professor and department chair in electrical and computer engineering and founder of Rice's Scalable Health Labs. "An important aspect of our analysis is that the results are clinically interpretable and point to new directions for improved type 2 diabetes care."

The study builds on SDRI's groundbreaking research to address type 2 diabetes in underserved Hispanic/Latino communities. SDRI's Farming for Life initiative assesses the physical and mental [health](#) benefits of providing medical prescriptions for locally sourced fresh vegetables to people with or at risk of type 2 diabetes, with a focus on the Hispanic/Latino community. SDRI recently added a digital health technology called continuous glucose monitoring to this research.

Continuous glucose monitors track blood sugar levels around-the-clock and allow trends in blood glucose to be displayed and analyzed over time. The devices typically consist of two parts, a small electrode sensor affixed to the skin with an adhesive patch and a receiver that gathers data from the sensor.

"We found that the use of this technology is both feasible and acceptable for this population, predominantly Mexican American adults," said study co-author David Kerr, SDRI's director of research and innovation. "The results also provided new insights into measurable differences in the glucose profiles for individuals at risk of as well as with noninsulin-treated type 2 diabetes. These findings could facilitate novel therapeutic

approaches to reduce the risk of progression of type 2 diabetes for this underserved population."

Sabharwal, who is also a co-investigator of the Precise Advanced Technologies and Health Systems for Underserved Populations (PATHS-UP) engineering research center, said, "The collaboration with SDRI aligns with our mission to use technology as an important building block to reduce health care disparities."

"We are excited about the application of digital health technologies for underserved populations as a way to eliminate health disparities and improve health equity," Kerr said. "This opens up potential for a larger number of collaborations to support SDRI's evolving focus on precision nutrition and also the expanded use of digital health technologies for both the prevention and management of all forms of [diabetes](#)."

More information: Souptik Barua et al, Dysglycemia in adults at risk for or living with non-insulin treated type 2 diabetes: Insights from continuous glucose monitoring, *EClinicalMedicine* (2021). [DOI: 10.1016/j.eclinm.2021.100853](https://doi.org/10.1016/j.eclinm.2021.100853)

Provided by Rice University

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